

COPYRIGHT, EVIDENCE AND LOBBYNOMICS: THE WORLD AFTER THE UK'S HARGREAVES REVIEW

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ABSTRACT. This paper tries to convey the problems we government economists face in weighing up the evidence around copyright policy, and how the academic and grey literature plays a role in this. This is with particular reference to the recent review of the IP framework in the UK – the Hargreaves Review – and the reforms which are now being planned. The paper outlines the proposed changes and tries to raise the research questions which will need to be answered for Government to take these reforms forward. My primary aim in this paper is to emphasise that we are looking for help in gathering this evidence, and secondly to show that the institutions of Government can make it very hard for us civil servants to find all the relevant answers, as we often don't know who to ask, or have the time to ask. I try to illustrate this by going through one aspect of the evidence we believe we have, and look in some detail at a very influential piece of 'lobbynomics' on the cost of infringement. The purpose of this is to share the view from the other side of the policy debate, and to invite the reader inside the bubble that can be government policy making, all the while trying to get out of said bubble.

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With thanks to Martin Kretschmer, Stephanie Yow, Nick Munn, Antoinette Graves, Tony Clayton, David Humphries, Peter Evans and Rose Geeson, who have all read and/or contributed to various parts of this work in other contexts. And thanks to the Hargreaves Policy Team and IPO Economics, Research and Evidence Team, as well as an anonymous reviewer. All errors are of course my own.

1. INTRODUCTION

This is not a government position paper but rather the view from an economist within the UK Intellectual Property Office (IPO), whose day-to-day job is to evaluate evidence and supply his policy colleagues with ‘facts’ that should improve the intellectual property system. As the value of copyright related sectors has grown, the debate around copyright has quite naturally intensified both in terms of publicity but also the sheer volume of reports submitted to the IPO. With the release of the independent *Review of Intellectual Property and Growth* by Ian Hargreaves (2011), the UK government was presented with a range of recommendations for changing the copyright system, and an admonishment to let economic evidence direct the policy debate. The official Government response to Hargreaves was yet to be published when this paper was first written, but his recommendations have since been accepted in full (HM Government 2011). This paper originally attempted to take stock of Hargreaves’s ambitions for copyright going forward in the UK and the reality of policy making with the problems of ‘lobbynomics’. This purpose seems even more pertinent now that Hargreaves’s recommendations are no longer just ambitions, but policy intent.

The aim of this paper is two-fold. My main purpose is to engage with those who are interested in the economics of copyright; those who do the research, and those who contribute to industry reports, and ask you to come and talk to us. Over the last 24 months we at the IPO have been building an economics capacity which commissions research, advises on policy and participates in various international fora where copyright policy is discussed. We want to learn and improve the evidence base so we can get the policies right.

As has become increasingly clear, we government analysts equally need to get out more and talk to you. But we are constrained to consider all

submissions of evidence to a debate, and that usually includes a large swathe of ‘grey literature’ which can take weeks to get through, leaving very little time to go looking for academic papers which may be relevant to the policy questions at hand. For the Hargreaves Review alone we received more than 200 written submissions, numbering in the thousands of pages, with exactly zero submissions of academic papers on copyright.

We would like to hear from you about how we can do research that answers the current policy questions. Section 1 goes through what will invariably be the UK’s policy priorities in copyright over the coming years, given the Government’s response to Hargreaves (HM Government 2011). We will need to find the evidence to show the effects of these policy changes, and if they are positive: create legislation which gives a broad enough scope to maximize benefits. But if the effects are negative: we equally need to be able to quantify that and show how certain recommendations may not be as beneficial as first suggested. This is not an exercise in trying to discredit or promote either Hargreaves or the government’s recommended direction of travel, it is a matter of being able to ‘speak truth to power’ and shape the copyright system in the best way.

My second aim is an exercise to outline what we – I – think we as a Government department know about the empirics of copyright as it relates to policymaking. It is not an exhaustive list of research, but rather the work which has allowed us to construct evidence to build policies. That means the literature which is of a peer-reviewed quality and relates to policy making, as reviewed in section 2. But it also means dealing with the many reports (think: hundreds) which are part and parcel of the economic lobbying around copyright legislation – or “lobbynomics” to use Hargreaves’s term (2011, pg. 18), and despite their problems I can vouch for Watt’s statement that “such estimates are widely believed” regardless (Watt 2009a, pg. 79).

Section 3 is a case-study of one such study that is widely cited in the policy making world: Tera Consulting's 2010 report on *Building a Digital Economy* which outlines the EU losses to copyright infringement. This is one of the better reports in terms of its transparency and referencing, but as I illustrate it is far from being a reliable piece of evidence. Section 3 is perhaps not the usual content for an academic paper, but it is the bread and butter of evidence-based policymaking: The analysis and evaluation of evidence. The broad outlines of the issues will be familiar to RERCI readers,¹ but in the process of picking such a study apart it becomes clear where holes exist for policy makers in the academic literature which these reports invariably refer to, so the exercise has some merit in that direction too.

My underlying question is how do we better integrate what you know into good policy making? For us, the Nirvana would be to have academics, industry, consumer groups and policy makers sitting in the same room, agreeing on what the underlying data looks like. If we are singing from the same data hymn-sheet the analysis and evidence base would be greatly helped. Our work with industry partners has allowed us to go part of the way there, but how do we get to where we want to be?

2. COPYRIGHT: HARGREAVES'S RECOMMENDATIONS

Hargreaves's opinion on the copyright system was expressed with some clarity on the first page of his review:

Could it be true that laws designed more than three centuries ago with the express purpose of creating economic incentives for innovation by protecting creators' rights are today obstructing innovation and economic growth?

¹See particularly the 2004 *Review of Economic Research on Copyright Issues*, Vol. 1

The short answer is: yes. We have found that the UK's intellectual property framework, especially with regard to copyright, is falling behind what is needed. (Hargreaves 2011, pg. 1)

His conclusion was that the copyright system had fallen behind. It was no longer promoting innovation and growth in the UK economy to the best of its abilities. That is not to say that copyright related industries were doing poorly – the music industry had seen 5% growth during the recession, video on demand was successfully building new models, and book publishing was doing well, to mention a few of Hargreaves's examples (2011, pg. 74). The point was that these industries could do better, and the copyright system had become a barrier to innovation. The Government's response to the *Review* has been to acknowledge that “The Government believes this is fundamentally the right view” (HM Government 2011, pg. 1). That has meant a commitment to revise parts of the copyright system, but in particular the Government was keen that we needed to base IP policy on economic evidence, and the thanked Ian Hargreaves for his focus on evidence:

The Government is grateful to him and his team for their hard work and particularly commends their resolution to ground their report in reliable evidence. (HM Government 2011, foreword).

A repeated complaint in the *Review* was the lack of reliable empirical evidence in copyright, both around very general policy questions, and the issues surrounding infringement, where in “four months of evidence gathering, we have failed to find a single UK survey that is demonstrably statistically robust” (Hargreaves 2011, pg. 69). Stan Liebowitz (2011) was planning to present a paper at the *Society for Economic Research in Copyright Issues* congress in June 2011 which spoke exactly to this issue, but it had not

found its way to the *Review* team in their work during the early parts of 2011. And that is one of the points in my paper. There is a need to improve the linkages between those who do the research and the policy makers who want such information. As the above suggests there are of course annual meetings and academic journals which deal with copyright issues, but in the vast amount of submissions to the *Review* and to policy makers in general, there is often little time to actively follow all research outlets. We as policy makers need to improve our connections, but we also need some help as most policy makers will not be area specialists.

The IPO tries to create that demand pull by annually commissioning a research programme, engaging researchers for fellowships within the IPO and having an Expert Group on Copyright issues to inform the IPO research priorities. But there is still a gap to be filled. The Hargreaves Review issued a call for evidence, had several months of consultation and in all that time received 289 submissions, from which perhaps 15 were from economists with an interest in IP, with no more than nine research papers – none of which were on copyright issues.

2.1. Copyright recommendations. There were a number of recommendations made to the government in the *Review*, and if they were all to be adopted, the review team estimated that this could add between 0.3% and 0.6% to GDP by 2020. In responding to the *Review*, the Government started the policy process. That is by no means a quick process, but (fortunately) it demands reliable empirical evidence and good economic thinking for what are called impact assessments (IAs).

Every UK government policy has to go through an Impact Assessment process, where a policy initiative is evaluated on its monetary and non-monetary merits.² It also needs to consider whether the proposed change is

²See the Department for Business, Innovation and Skills Impact Assessment library for more information and copies of past assessments: <http://www.ialibrary.bis.gov.uk/>

a new piece of regulation or the removal of some existing regulation (whether it is an ‘IN’ or an ‘OUT’ in the jargon). The main part of that exercise from an economic perspective is to help frame the policy so that it is economically efficient – maximizes benefits and aligns incentives. The economic (or economists’) role can only be as involved as the empirical evidence allows us to say something concrete about the policy, and where theory can be used to extrapolate from such data where required. New policies can come from political commitments, research outputs, lobbying, or indeed Reviews of policy areas – as in the case of Hargreaves’s copyright proposals. Some policy proposals will require White Papers or even commissioned research before legislation or regulation is considered, but others move into a drafting stage – for consultation – almost immediately. In both cases, when drafting of the consultation document begins, it is a matter of providing the best possible advice with the available information. In the case of the Hargreaves *Review*, there will be a first round of consultation, a set of commissioned research projects and then a White Paper on copyright issues, so it will be a long process (HM Government 2011).

The ‘exam question’ when applying evidence is always: “How will this impact the economy?” Who are the net beneficiaries, and almost more importantly: what is the probable range around your estimates? Much of the scrutiny that takes place over economic estimates are not about the ‘best’ estimate – but around the extremes where you build up a picture from the lowest and highest estimates which can be relied on.

The Hargreaves recommendations will go through these stages, and for each one, economic thinking is needed. If that thinking is done in advance, it makes the policy making process easier (technically, if not politically) and in a perfect world it leads to a minimum of unforeseen circumstances. Therefore serious thinking is needed along the lines of: What is the value of these

recommendations? How can they be drafted to ensure that incentives align? How broadly or narrowly should these exceptions be framed to maximize opportunities? The following sub-section outlines the proposed copyright changes in the UK:

2.1.1. *Copyright exceptions.* The *Review* suggests a number of copyright exceptions on the basis that economic or social innovation would be furthered by introducing the available exceptions available under the EU Infosoc directive. It also set out a short impact assessment to look at the basic economic logic³. But this impact assessment will be revised and IAs will be written for each major policy area, to be published with the consultation document, and revisited for the White Paper and again before legislation. There is a lot of work here which economics could answer, and research that addresses this will have a very real policy resonance over the next years.

Format Shifting. The proposal that the UK should introduce a format shifting exception with a copyright levy that sets the levy rate at zero will be controversial. Empirical and legal work was done for the *Review* and informed this position, and is now open for peer-review (Kretschmer 2011). The assessment suggests a small saving to firms (£0.5m p.a.) but a potential contribution to the economy of between £0.5bn to £2.0bn depending on the type of industries and firms that try to move into this technology area.

Parody. The parody exception is one of those things which appear to divide stakeholders. Some welcome it, some don't care and others really dislike it. The argument put forward in the *Review* is that this could free up creativity and generate publicity and sales for some bands. The initial impact assessment is made on the basis that there is a very large – and now global – English language entertainment market worth about \$2tr annually which the UK would now have a small probability of getting a small piece of; but

³See Hargreaves Review Supporting Document EE: <http://www.ipo.gov.uk/ipreview-doc-ee.pdf>, referenced below as (Hargreaves Review Team, 2011)

0.01% of that market is still \$200m (Hargreaves Review Team 2011a, pg. 29).

Non-commercial research (or Private research). This, I suspect, is less controversial, but there will be debate about the boundaries of who can acquire content and what is called research. The impact is billed as Social Innovation, but what are the examples of this? What are the possible side-effects?

Library and archiving. Allowing libraries to format shift their archives without getting rights-holders' permission should save the libraries and archive holders a lot of money: £200m per year in saved clearing costs, if whole collections are transformed (Hargreaves Review Team 2011a, pg. 3). But how far can these archives then go in using that content for other purposes? Is it economically harmful for them to allow access to collections that are digitised on the premises? Allow access over the local internal network, or the internet?

Orphan Works. Orphan works are works for which the rights-holder cannot be found after a diligent search, but where copyright is still in force. Estimates from various archives and museums suggest a large proportion of works are orphaned, but how to create a system where holders of material will offer the works for exploitation (or use) and rights holders are compensated – or found? This is a potentially big store of value, or possibly worth nothing – but you won't know until you open Pandora's Box. The question is how?

Extended Collective Licensing (ECL). At present the mass licensing of works is restricted to those works where rights owners authorise a collecting society to collect money on their behalf. But of course a mass license is an implicit agreement that the license buyer has the right to use *all* of the relevant content (and that may be explicit on some contracts). ECL, in

terms of the Scandinavian model, overcomes that by giving the society the right to collect for all works – but what does that mean for competition among societies or copyright owners rights?

2.1.2. *Digital Copyright Exchange*. The *Review* (2011, pg. 31-5) recommends setting up a digital rights clearing system where license buyers can purchase the rights to copyright content from rights owners (and those acting on their behalf). There is a whole range of technical questions about how such a system would function and the *Review* was explicitly “not advocating that Government should itself create this Digital Copyright Exchange. That way lies a nightmare of IT procurement followed by the birth of a white elephant” (2011, pg. 32).

But on the economic front, the questions are multiple: What are the incentives for rights owners to participate? Can mass licensing be automated and will there be take-up? What are the incentives that can be offered? Should this be B2B or would it be beneficial to include end-consumers? How can you license single works? Can you create new licenses in the system, or are you restricted to only offering existing ones? Why has this not been done before – and what are the disincentives that need to be overcome? Hargreaves suggests that this will need “more than a nudge, perhaps, but less than a full arm lock with menaces” but it will also need some serious economic thinking (2011, pg. 32). Again some lobbyists have already set out their thoughts, but there is still no economics in the conversation, and there needs to be.

2.1.3. *Making exceptions mandatory*. This is perhaps a legal issue, where contracts and licenses cannot exclude exceptions – or future exceptions, which seems the concern. Such clauses which override copyright exceptions appear to be a regular feature of copyright related contracts. But will such a measure significantly impact the value of copyright contracts already signed?

2.1.4. *EU level exceptions – which are more long term and aimed at EU changes.*

Data and text mining. This is, I think, a proposal to allow researchers to scan works in their possession and run data mining tools on the digitized content, which for the purposes of data mining would be accessible to any researcher (whom the original owner wished to share it with). Again there is an issue of social innovation but how much value could we get from such an approach? Has Google already started doing this at a basic level with the *ngram viewer*⁴ which allows you to search all of Google books for single words to see when they are more popular? On a tangential note, economists may be wondering which is more popular: Demand or supply. According to Google (ngram) supply was most popular from 1800 to 1965, but after 1965 that relationship inverts.

Non-consumptive use. This is, as I read it, an exception for users of new technology (whatever it may be) to create new content from existing copyright content, but which does not impinge on the market value of said content. This will require careful thinking about what the value of a copyright work is, and whether various forms of content are substitutes, complements or something else?

2.1.5. *How can we address all these issues?* It is a rather long list of areas for legislation and de-regulation (a lot of them are to do with taking away some scope of copyright regulation), and hopefully it has inspired some thoughts about research or refreshed a memory of past work in the area, as we are looking for evidence around all these subjects.

Policy makers will have to address the issue of value, incentive structure and scope for all the recommendations accepted by the government, but where is the evidence for such measures? We know that we are far from

⁴<http://ngrams.googlelabs.com/>

having established or even discovered all the facts in this debate, and we are looking for help to do so.

3. EVIDENCE: WHAT DO WE KNOW?

Government analysts are always asked: “So what evidence do we have for this policy?” Problematically, we tend to reiterate Rogers and Corrigan’s (2005, pg. 1468) point, that in copyright “our empirical knowledge base is very weak,” which I think is the sentiment Richard Watt (2009b, pg. 1-2) channels when he writes that “the economics of copyright is not a large area.” What little we do know seems to be contradictory to the perceived wisdom promoted in the press, and is rarely discussed in policy making circles, due to the loud assertions of various stakeholders – including Government – who all tend to repeat unsubstantiated estimates, and do not have time for caveats and due consideration.⁵ But what do we really know? Or do we think we know at least?

Christian Handke’s (2010) literature review of copyright should be seen as the – very good – thesaurus of copyright research, and likewise Richard Watt’s (2009a) overview of empirical studies. What I offer below is more of a field-guide for the policy interested economist. As with any field-guide, its focus is narrower. The focus is on those studies and results which help the policy maker navigate the jungle of lobbyconomics, provide arguments to politicians and question research. It is also driven by those economic arguments which tend to appear and re-appear in policy making around copyright, growth and innovation. Therefore it includes some work which is reasonably treated as a footnote or not-at-all in Handke’s or Watt’s reviews, while some new work has since emerged. The literature presented is of a peer-reviewed academic standard, while ‘grey literature’ in the form of

⁵For a good review of this see “Fantasy and Reality in IP Policy” from the Financial Times, 1/12-10: <http://www.ft.com/cms/s/0/d08ebc8c-fce7-11df-ae2d-00144feab49a.html#axzz16qsYak8o>

industry and government reports are referenced in-so-far that they set the tone of debate in copyright policy, but it is pointed out where their empirical evidence fall short.

There is perhaps a classic information asymmetry in this story. The readers of this journal will be all too familiar with the academic literature, and odds are I will do it a disservice; but at the same time, there may be less familiarity with the grey literature. This latter set of texts has traditionally dominated IP policy making, not because it is inherently better, but because it is presented in a definite voice, accompanied by press statements, glossy front-pages and a concerted effort to send short executive summaries to politicians and policy makers. This forces civil servants to read and focus on such work, particularly when the simple ‘truths’ stated in such documents make it into the press and the general debate around copyright.⁶ The grey literature uses a particular trick of telling the reader how big the copyright industry is, and then usually advances to make its case. It is a useful rhetorical device, and sets the stage for policy makers who may not be familiar with the latest estimates, or any problems within them. Therefore I will cover the basics of those estimates below, before addressing the evidence around copyright term - a perennial favourite of the grey literature in particular.

3.1. How BIG is copyright? Government and consultants alike tend to start their analysis by looking for the big picture, or more usually a ‘big number’. This allows policy makers to answer the political question of how ‘important’ something is in relation to the economy. Copyright is an area where such analysis has flourished recently, and it is now part and parcel of the policy debate. These efforts have been the first step in staking a

⁶For a particular example of this, see this newspaper article by Ben Goldacre from 2009 which describes the coverage of copyright piracy costs and the general response of both industry and government. <http://www.guardian.co.uk/commentisfree/2009/jun/05/ben-goldacre-bad-science-music-downloads>

claim for the importance of copyright related industries, but their analytical usefulness is probably quite limited.

Both the *World Intellectual Property Organisation* (WIPO) and the UK government's *Department for Culture Media and Sports* (DCMS) have a preferred method for measuring the copyright or creative industries, and getting their big number. The WIPO (2003) method, described by the report's author (Gantchev 2004), sets out what sectors rely on copyright, while the DCMS system sets out the sectors which are 'creative'. Both then work through the national accounts to take out the value added supplied by the identified sectors and claims them for the copyright or creative industries. Both set out a core sector of copyright-related or creative activity, and then add one or two surrounding sector groupings, which rely on the business provided by the core sector. In the surrounding sectors a (seemingly) arbitrary percentage of the relevant sector is taken to represent the copyright segment. So in the last version of the DCMS calculations 0.05% of all clothing manufacture (nine Codes from the Standard Industrial Classification codes - SIC)⁷ is taken as creative value added, or WIPO advocates a national weight be established for cargo handling. There are well established issues surrounding this 'land grab' approach to valuing copyright reliant industries, but they are still prevalent and when applied in the grey literature the story gets muddled up by both government⁸ and, as I illustrate in section 3, by consultants.

Recently, a more fruitful line of enquiry seems to be emerging. Working with the national statistical bureaus, there is an attempt to quantify

⁷See Annex A to the "Mapping the Creative Industries to official data classifications" documentation.

⁸DCMS's creative economy estimate is cited almost everywhere as proof that the creative industries account for 6%-8% of GDP in the UK (cf. DCMS 2008: foreword). These figures are partly over-inflated, as the latest DCMS (2010) results actually refer to 5.6% of Gross Value Added (GVA) (DCMS 2010). But as creative industries contributed £59bn in 2008 and the UK Office for National Statistics (ONS) estimate of GVA was £1,295bn in 2008, the straight arithmetic means that creative industries were 4.6% of GVA, or 4.1% of GDP in 2008.

the investment in copyright assets made by creators in the UK (Goodridge and Haskel 2010, Farooqui et al. 2011) and the USA (Soloveichik 2010, Soloveichik and Wasshausen 2011). This is intended to update the national accounts to properly estimate the value of copyright assets in the economy, because spending on creative originals protected by copyright should be counted as investment in the national accounts. If policy makers are keen to understand ‘how big’ they are even keener to understand how much additional value copyright could add to the economy.

Initial results suggest that the available estimates of copyright investment in the national accounts are understated by billions of pounds and dollars. This work might help shed more light on both the copyright industries and provide the big picture. It may be useful for other research as the data collection effort – with the IPO and Office for National Statistics in the UK, and Bureau of Economic Affairs in the US – involves micro-data from bodies which disburse license fees (such as collecting societies), account for retail income (charts companies or census data), or hold lists of copyright assets (such as the US copyright register or British Library). With that type of micro-data it becomes possible to ask questions of distribution, income and output effects, all in the context of the official national accounts. As this work matures, and more data becomes available, a body of literature which addresses itself empirically to the issues of copyright on a micro-level should become more likely.

3.2. Field-guide to empirical evidence on copyright term. The principle of this field-guide is to follow a sample of the empirical evidence around copyright which has stood up to scrutiny, and to contrast it with the evidence submissions that most policy work starts from. A good representative of this problem is the ongoing debate over copyright term and one where evidence is supposedly thick on the ground, given the recent EU extension

of copyright for musical performance, and the US *Digital Millennium Copyright Act*.

The idea of copyright was originally suggested by English book publishers who had lost control of their publishing monopoly after the printers' licensing act lapsed (Kretschmer and Kawohl 2004), and one can imagine the same policy debate as that which currently occurs around copyright term extension. History suggests that the loss of the *Licensing Act* appears to have doubled the average amount of published books in Britain within a year, whereas the introduction of copyright 15 years later appears to have little impact on literary output (Hoppit 2006, pg. 88), but that is based on a limited sample. Similarly, when term was changed in 1774 and many works fell out of copyright there appears to have been an innovation effect as new derivative works entered the market (St. Clair 2004, pg. 445). This type of empirical history is useful as illustrations of how copyright worked, but neither of these studies appears to have formed part of the evidence base when policy was formulated. A number of studies around the optimal copyright length have been proposed, but the problem which faces the policy maker, is usually one of marginal change from a status quo.

Recent empirical studies seem to question the efficacy of copyright with its current terms. Between 1991 and 2005, the extension of film copyright terms (toward life plus 50/70) in a panel of 17 OECD countries, had no statistical impact on the output of films (Png and Wang 2009). But as Handke (2010) points out, previous working paper versions had found some positive effects from increasing term, exemplifying the trickiness of this work. Less uncertain was the PwC report (2006) - commissioned by the British Phonographic Institute - that showed how extended term was a direct benefit to musicians and artists, and LECG Consulting's critique⁹ of (CIPIL 2007)

⁹For which there is no publicly available copy, but versions were circulated without being addressed to the CIPIL report authors (CIPIL 2007, pg. 2)

of a government commissioned report which found that term extensions was not beneficial (CIPIL 2006). In the academic reply to LECG's criticisms, CIPIL covered the points of criticism, but it was perhaps too late for the government analysts who were left to re-read all the original material to brief ministers about which report was 'better'. In a similar vein, evidence was gathered in 2009 to (again) consider extending copyright term of music performance rights (from 50 years to 70 or 95 years). The UK Intellectual Property Office impact assessment concluded that the extension of term would result in a net cost to the UK economy, while 80% of performers would only earn an additional £10 to £38 per annum (Hargreaves, 2011, pg. 15). The 2006 reports from PwC, LECG and CIPIL were of course re-read and re-worked for this exercise, illustrating some of the institutional memory loss associated with longer term policy processes.

Relevant to this issue is the well-established body of research looking at the distribution of income in copyright related industries which appear relevant to the discussion (e.g. Towse 2001, Throsby 2001, Matsumoto 2002, Hansen et al. 2003, Kretschmer and Hardwick 2007). These studies consistently show that copyright markets are winner-takes-all markets. So the top 10% of creators receive a disproportionately large share of the total income. As a rough guide, the winners in photography and illustration receive 45% of income; literary authors: 60-70% of income; and composers/songwriters: approx. 80% of total income). Median earnings tend to be low and most creators have an income from another source (a second job, partner etc). These studies question the reqlently made argument that copyright rewards writers, or in the words of Lord Macaulay, "is a *tax on readers* for the purpose of giving a bounty to writers".¹⁰ Rather, the bounty to authors is a function of the contracts they sign with their publishers, not the higher prices charged to copyright users – and empirically it is a bounty for the few, not the many.

¹⁰Speech of 5 February 1841 in the House of Commons.

In the grey literature surrounding copyright term however, the focus tends to be on the aggregate impact, and there is usually little consideration for distribution from poor-to-rich or alive-to-dead. Partly that is because copyright protects works regardless of commercial success (even if Landes and Posner (2003) showed that approximately 80% of copyright assets in the US had little economic value) but it is partly because the message conveyed on page one of most evidence submitted to government talks about the big number, the total. The distribution issue rarely comes up, and can be lost as analysts try to get through the latest and brightest submissions which hardly mention the distribution of income.

What is well recognised in the policy world is that officials tend to change regularly, and lobbyists equally change jobs, so there is always an element of newness in the policy debates. Academics may stay in an area for the long term, which means they will have much deeper insights, the problem is that those insights need repeating to the policy debate which can have a very short term memory I fear.

I would agree with Handke's (2010, pg. 58) disappointment that "empirical studies have not featured much in the economics of copyright". There is perhaps a good reason why lobbyconomics (from all sides) avoid detailed empirical work, except for the usual excuses that it's hard to get data or hard to do. The additional problem with this lack of data and evidence, from a policy making perspective, is that copyright related industries are big business, and particularly so for the UK. We are one of only three nations in the world that have a positive balance of payments in music publishing rights.¹¹ Our music, book publishing and film industries have an international audience and we are market leaders in parts of these industries. Industry estimates

¹¹PRS for Music. 2010. "Adding up the Music Industry, 2009." from CISAC 2008 accounts. <http://www.prsformusic.com/creators/news/research/Documents/Economic%20Insight%2020%20web.pdf>. The other two net export earners are the USA and Sweden.

– *caveat emptor* – run the gamut from £60m on exported musical compositions, £3.9bn for the total music market¹² and £20bn for the total book publishing market.¹³ The problem is that almost none of these figures are independently verified, and that is the way parts industry has preferred to keep the matter.

4. LOBBYNOMICS

If the past is anything to go by, the arguments around copyright changes will involve a lot of what Hargreaves calls “lobbynomics” (2011, pg. 18), or ‘evidence’ reports commissioned by stakeholders (including Governments) which are usually not peer-reviewed, do not disclose their sources and fail on data transparency. The trouble is that Civil Servants – even the economists – are employed to “provide information and advice, including advice to ministers on the basis of the evidence and accurately present the options and facts” as they are available (Civil Service Code: §10).¹⁴ All the while government “needs to ensure it gets on with the job as quickly as possible and provides value for money”¹⁵ – according to the head of the UK civil service Gus O’Donnell (initials GOD). Provide the *best* advice you can, given what you know at this point. That does not mean providing the *right* advice after 12 months of research.

Final decisions are ultimately political and they may or may not reflect the directions suggested by evidence. Hargreaves (2011: 19) points to the two recent examples of copyright term extensions and the EU database directive where politics trumped evidence.

¹²PRS for Music. 2010. “Adding up the Music Industry, 2009.”

¹³Publishers Association. 2009. *Annual Report*.

¹⁴http://www.civilservice.gov.uk/Assets/civil-service-code-2010_tcm6-37859.pdf

¹⁵Gus O’Donnell (2009) note to the Civil Service: <http://www.civilservice.gov.uk/about/values/vision.aspx>, [accessed May 2011]

A frequently cited study – in the policy world at least - is *Tera Consulting's* (henceforth TERA) *Building a Digital Economy* (2010) report commissioned by *Business Action to Stop Counterfeiting and Piracy* (BASCAP), and it makes a perfect case-study of lobbynomics. It presents estimates of how much piracy costs the EU, in the form of revenue and job losses. As with any good lobbynomic argument it presents a *big number* on the front page – a €240bn cost and 1.2m jobs lost by 2015 – and hides its assumptions in 139 footnotes, and various appendices. It is worth repeating that this is one of the better reports in terms of its referencing and stating assumptions. In its many pages it works through a set of issues which all reports in this area have to address, which is why it is instructive. If we had better figures – by which I mean reliable and transparent figures – the debate could move forward.

But why do we trawl through reports when we know the broad outlines of what to look for? If the evidence stacks up, submissions represent a saving to government and a useful contribution to the policy process. If the results do not stack up however, this becomes a burden on government and economist time, both in the analysis and the ensuing aftermath. This is particularly problematic as there is very little peer-review of grey literature and their headlines tend to be quoted as hard fact, regardless of the underlying assumptions.

Despite the TERA report's relative quality, there are methodological limitations and omissions at each stage of calculation which means it is problematic as evidence for policymaking. A similar exercise by the U.S. Government Accountability Office (GAO) resulted in many of the same issues being raised for similar American studies (GAO 2010), but I cover the TERA work because it not only highlights the classic tricks of the trade, but also raises genuine empirical questions to which we have very few answers. Moreover,

it is this sort of investigation that has to be undertaken in the absence of active peer-review, so it gives a flavour of the less glamorous side of policy making.

TERA's estimate for the UK suggest that the losses to piracy were €1.4bn in 2008, but with the methodological issues identified below we only find evidence for less than half of this in the report itself. The evidence regarding job losses and the aggregate effect until 2015 is also problematic.

4.1. Revenue losses from piracy. TERA calculates revenue losses by first taking the number of infringements per year. An assumed substitution rate is then applied to the overall volume of infringements and this is multiplied by the unit retail price, to obtain the revenue loss due to piracy. Music, film, TV and software are looked at separately and an estimate for digital and physical piracy is made for each category. The figures are then all added together to give the total losses from piracy.

4.1.1. Number of infringements per year. TERA divides piracy into digital and physical copyright infringement, by first estimating the number of infringements which are the total amount of downloaded files, or streamed TV programs and films, plus physical counterfeits sold. For the UK, all the estimates for music come from the British Phonographic Institute (BPI), giving 1.2 billion music files downloaded, and ten million CDs sold, but there is no further explanation or sourcing – despite these figures alone being widely cited. The TV and film figures are from a report by Ipsos-Mori (2007) for the British Video Association, based on a 2007 survey of theirs, which estimates that there were 98 million TV & film downloads/streams, and 61 million physical units sold. The Ipsos-Mori survey is based on interviews with 2,000 people, but admits that the figures for TV in particular are from a low base and should be treated with caution (2007: 19-20). It is not clear

how TERA multiplied up the survey results to get a national incidence of piracy.

The estimated software piracy losses make up 46% of the total loss presented by TERA, but they do not present any explicit calculations to get this figure. Even though they recognise surveys which suggest that 50% of software copies come from “friends and family” (TERA 2010: 34) and that the majority is not on-line infringement, they take a 2009 report on global software piracy for the British Software Alliance (BSA-IDC 2009) - from which the data cannot be verified - and make their “own calculations... adjusting certain BSA assumptions” (TERA 2011, pg. 33, footnote 18). There are no details on what those assumptions or calculations are.

The quantity measures are not explicitly verifiable, and where sourced they tend to rely on single statements rather than peer reviewed research or proper sampling. There is a role here for better scholarship and better estimates – both in terms of transparent research but also in filling a gap which is only becoming more apparent as the UK regulator of tele-communications (OFCOM) looks to estimate the extent of infringement under the Digital Economy Act, and the IPO looks to kick off a project to look at the efficiency of addressing infringement.

4.1.2. *Substitution rates.* The substitution rate is the amount of legal product which will not be purchased as a result of piracy. So if the rate is 5%, then for every 100 pieces of content acquired through piracy, five works will not be sold. TERA do not assume a 100% substitution rate which is often the assumption elsewhere, as noted by the GAO (2010), but they do tend to apply estimates on the higher end of what their available empirical evidence would support.

For UK digital music piracy a substitution rate of 11% is assumed, based on a literature review of eight reports, none of which focus on the UK,

and one of which finds a rate lower than 10%. This assumption seems to ignore part of the self-selected evidence base, and even other industry work which suggests this is a very high rate of substitution. In its 2009 survey, UK Music – “an umbrella organisation representing the collective interests of the UK’s commercial music industry” - found that 77% of consumers would buy CDs even with unlimited downloads.¹⁶ This suggests that if only 23% of consumers would not buy CDs, so if the consumer substitution rate was 11%, then the actual substitution rate when doing national studies would be 2.5% - but that is just some rough arithmetic.¹⁷ My point is that these elasticities are very hard to estimate and when the Strategic Advisory Board on IP Policy (SABIP 2010) reviewed the literature on infringement behaviour, they similarly concluded that that there was no solid evidence on substitution rates, with an on-going debate about whether it promotes or reduces legal music sales – another issue which needs empirical investigation.

For physical music piracy a 48% substitution rate is assumed for the UK.¹⁸ This appears to be based on a single survey for the period 1994-98 by Hui and Png (2003), which TERA interpret to mean that “for every pirated CD, sales fell by 0.42” (2010, pg. 57). The inconsistency between Hui and Png’s 42% (0.42) and TERA’s 48% appears to be TERA’s judgment that the UK is worse than the study suggests, but they make no mention of the adjustment. In fact, the quoted study indicates that it was either 0.14 or 0.42 depending on the type of empirical test, with a tighter error band around the lower estimate (Hui and Png 2003, pg. 14).¹⁹ Additionally, the quoted study emphasises that “the coefficients of price, income, CD player ownership, MTV subscriptions, and piracy combine... [so] the coefficients *cannot* be directly associated with elasticities of the legitimate demand” (Hui and Png

¹⁶<http://www.ukmusic.org/about-us>

¹⁷ $0.23 \times 0.11 = 0.0253$ or 2.5%

¹⁸See TERA (2011) appendix 1.13, or page 19 footnote 6.

¹⁹The range around 0.14 is 0.09-0.19 unlike the broader range around 0.48 which was 0.23-0.67.

2003, pg. 13) which implies that the assumed 48% substitution rate for piracy alone is out of context. What is good about the TERA work is that it cites its sources and allows us to verify the results, but the problem lies with the way that such evidence is then applied in the search for a single precise result. Usually in Government impact assessments what matters is the feasible range of outcomes, and the report would have benefitted from building a range by applying both elasticities and creating a low and high scenario around the central estimate. Of course one has to interpret the economic evidence in the right way as well.

For film piracy, a range of substitution rates are assumed, corresponding to different stages of the release cycle for the film. Verifiable evidence is again lacking for the assumed rates, but more importantly the estimates seem to be mathematically exaggerated, but that may be because the underlying method from the survey is not available. Of those who pirate films, the study assumes that 10% will not attend the cinema, 5% will not buy the DVD, 5% will not rent the DVD, 1% will not watch it on Pay-per-View and 10% will not watch it on TV. The implication in the report is a 31% substitution rate for film piracy (i.e. $10\%+5\%+5\%+1\%+10\%$). But this is an aggregate probability and not a conditional one. So the assumption is that if a person had not pirated the content they would be equally likely to visit the cinema, buy the DVD, then rent it, and then watch it on Pay-per-View. For obvious reasons, someone who has bought a DVD is a lot less likely to rent it the same film, so even the assumed substitution rate should be lower than the 31% used by TERA.

For piracy of TV series TERA assumes that film downloads are twice as frequent as TV series downloads, and for every TV series DVD sold, seven times the amount of film DVDs are sold. Little empirical evidence is presented to support this assumption, none which can be verified.

Again, no details on software are given.

4.1.3. *Bringing it all together and calculating revenue losses.* To calculate the losses TERA needs a set of prices, and for digital music they establish a unit price of piracy by assuming that 90% of lost sales are digital sales and 10% are physical sales. The cited unit price is €0.90 for a downloaded track and €10 for a physical CD. The implication for TERA is that the average loss from pirated music is €1.81 per unit.²⁰ A key point overlooked by TERA is that at least ten music singles tend to make up a full CD (which is implied by the unit price of a physical CD of €10). This means that the calculation of lost sales should be revised downwards – if we take an average 11 tracks per CD – to around €0.90.²¹ Thus, any digital piracy of music estimate should be halved, due to the double counting within the methodology. Given this, and the potentially overstated substitution rate, the verifiable range of digital music piracy losses falls from £234m to around €116m.

The physical side of music piracy add up to €150m for the five countries addressed in the paper (UK, France, Germany, Spain and Italy). Oddly the UK amount of piracy is almost double that of the other nations, and ten times the French figure, but again the underlying data is not available or verifiable. The UK losses are calculated with the 48% substitution rate from above. If one tried to set out a range, with 48% probably as the ‘worst case’ – given Hui and Png’s (2003) results – then a 30% substitution rate drops losses to €100m, and while there is no specific evidence to suggest a 30% rate, there is equally (problematic) evidence for a 48% rate as there is for Hui and Png’s much lower 14%. Given this, the range for the five countries lies between €47m and €100m, and the UK’s share, given the national splits, would fall from €48m to between €15m-€32m.

²⁰ $0.90 \times €0.90$ plus $0.1 \times €10$, see TERA’s (2010) appendix 1.13.

²¹ $0.90 \times €0.90$ plus $[(0.1 \times €10) \times (1/11)]$.

We can control for the substitution rate problem in the film and TV estimates²² and this reduces the loss to films and TV by €12m from €386m to €374m in the UK, and if one included the full release cycle, the loss would fall by an additional €32m to €342m.

On software, TERA estimates losses of €4.5bn to the EU, which they divide among the five countries for which they are doing detailed estimates. The UK's share of this is €742m. No empirical evidence or calculation is presented to support the assertions of quantity or value, and there is no indication whether this is due to physical or on-line infringement.

In summary, of the €1.4bn in piracy losses for the UK cited by TERA they only present evidence for between €475m and €522m which can be verified. The biggest proportion of losses comes from software, but none of it is verifiable. For policy makers seeking evidence this is very frustrating, and at this point the cost in terms of time to read, verify and re-check has become quite high. But as a summary of what is announced in the report, and what can be checked in the report itself – without commenting on the total values, consider Table 1.

Table 1: UK losses to piracy (millions of euros)

	Reported	Verifiable
Digital music	€234m	€116m
Physical music	€48m	€15m - €32m
TV and Film	€386m	€342m - €374m
Software	€742m	0
TOTAL	€1,410m	€490m - €538m

²²We do this by considering the release cycle and removing part of the infringing population as the cycle progresses. For film and TV series we apply this for DVD sales first, Video-on-Demand/PayPerView/download second and DVD rental third. So if an infringer buys the DVD, they will not download a legal copy, and if they do that, they won't rent the film. We do not change the cinema or TV substitution rates, as we do not have any evidence relating to the cross elasticities, although this should be done, and would lower the cost estimate.

More than half of the €1,4bn claimed in losses can more or less be written off as unverifiable, and when we start creating a range it becomes clearer that lobbyonomics favour the top range of potential costs.

4.2. Job losses from piracy. Next, TERA translates revenue losses suffered as a result of piracy into job losses. To do so they take the total loss to piracy and divide by the average contribution of the creative industries. They state that every person employed in the music industry generates €70,000 in revenues, €85,000 in film and TV and, while not explicitly shown, appears to generate an average €87,000 in creative industries. These figures may seem high, but are sourced to industry estimates without any further detail. TERA take their total €1.4bn UK loss and divide it by the cost of jobs. Then they double the result of job losses, on the argument that each copyright job lost leads to the loss of an additional non-copyright job. Without substantive referencing that assumption seems a little excessive.

4.3. How BIG is the creative sector. TERA present these figures in relation to the creative sector, as outlined in the WIPO (2003) handbook. Unlike WIPO, they assume that the copyright contributions to the external copyright sectors in the WIPO classifications are all the same. WIPO explicitly treats this very carefully and advocates different impacts to different sectors, but TERA treats the “manufacture of television” sector the same as “cargo handling”. The weighting for these industries is also mathematically incorrect on its own. The weight (w) is set by taking the sum of the core (c) and interdependent industries (i), and dividing it by GDP minus the non-dependent industries (nd); $w = \sum (c + i) / GDP - nd$. They justify this (TERA 2010, pg. 14) by arguing that copyright contributes equally to ‘non-dependent’ industries and ‘interdependent’ industries. But that does not justify adding interdependent industries to the numerator and deducting (nd) in the denominator. They should both be outside the calculation.

As a result the contribution of the industry is overstated by 13 percentage points on average.

4.4. Cumulative impacts up to 2015. Having gone through the UK figures – for which data is most readily available in the report – I hope it is clear that there are some real issues in how evidence is usually submitted to national governments, but TERA’s aim is to provide figures for the whole EU and forecast the impact until 2015. There is no need to go into a detailed commentary here, except to follow a few of the methods to illustrate how the end result is reached and inflated. Where all of the above sets out some questions which can be empirically addressed: (What is the substitution rate? How do we best quantify infringement? etc.) the issue of forecasting is often a matter of art rather than science. But one can always wish for better artists, with better tools.

TERA estimate the impact for the UK, France, Germany, Spain and Italy using a variation on the UK method for each country. In some cases there are no nation-specific data, as with DVD piracy figures for Germany or France. Rather than take an average rate for the available countries, TERA assume a relationship between music piracy and film piracy to get a figure they can add to the available film estimates in Germany and France. They present three point estimates of film and music piracy rates and draw a line between them, giving a slope 2.84 (TERA 2010, appendix 3). They present the *R*-squared results for fit, but not the significance test – which with three observations should be interesting – to argue that film piracy is 284% higher than the average music piracy rate. The total sum of EU losses, which is not backed by some source data, then adds up to €1.2bn in the final loss figures.

Once they have estimated piracy losses for all five countries in 2008, they add 33% to the total (€7.4bn) and get a €9.9bn piracy loss for the full EU27.

The presumption is that the five countries represent 75% of EU27 GDP. By multiplying these five countries up they are implicitly assuming that the response to piracy in the rest of the European Union is equivalent to that of the five major economies, which is doubtful. The UK, Germany, France, Spain and Italy are probably the EU countries with the largest creative sectors and consumer power, so the effect on smaller EU countries should be disproportionately smaller, but again no referencing is available.

Once an EU cost has been established for 2008, TERA forecasts the growth of piracy until 2015. A key assumption made in this forecast is that growth of all infringement (digital and physical) will grow at the same rate as internet file sharing volumes or global internet traffic. There is no evidence to show that this would be the case. The forecasts for internet growth are taken from a Cisco market report,²³ which uses its own assumptions and is projected up to 2013 only, beyond which TERA have extrapolated with no empirical basis. Here TERA actually presents two scenarios, but heavily front-load the growth in both, rather than apply a straight average which is implied.²⁴ And thus they reach an EU total of €240bn lost for the period 2009-15 – by adding up each year – unless you look to the later pages where an alternative figure puts the loss at €168bn and job losses are halved to 600k (TERA 2011, pg. 9).

As the Hargreaves Team concluded about the literature on infringement, of which this TERA study is one:

While we appreciate that this is a complicated area, it does
the debate no favours to have complex calculations in long

²³Cisco Visual Networking Index forecasts, available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360_ns827_Networking_Solutions_White_Paper.html

²⁴TERA (2010, pg. 9) notes that they use both an 18% and something “in excess of 24%” annual compound growth rate for scenarios 1 and 2. The actual growth rates applied to the forecast does average 18.2% and 28.1% but are heavily front-loaded, with rates in the range 15%-26% for scenario 1 in the first four years, and a hefty 30%-41% in scenario 2.

reports which cannot be independently verified. Rather than have reports which have to be verified in detail by policy-makers, who on short reading find even simple things to have been mislabelled,²⁵ or trends reversed²⁶ while trying to unpack some rather complicated maths is not conducive to evidence based policy. Hopefully the debate can move forward with an eye to sharing methods and data to ensure a proper understanding of an important issue. (Hargreaves Review Team 2011b, pg. 12)

The *Review* itself points out that the data on the cost of infringement to the economy is highly varied. In a useful graphic, they illustrates that the many recent industry estimates of cost are all on the same scale, as illustrated in Figure 1 below. When compared to GDP – a measure usually not attempted in the grey literature – copyright infringement goes from benefiting the economy by 0.01% of GDP, to costing it up to 0.08% (Hargreaves 2011, pg. 74).²⁷ The *Review* provides a comparable industry estimate from another sector, and point out that retail crime – shop lifting and shop vandalism – has about as much of an impact on the UK economy as the biggest claimed costs of copyright infringement (which is that claimed by the TERA report discussed above).

All in all, the TERA report is one of the better pieces of work – in terms of referencing – which addresses itself to policy makers and a policy question (‘how big an issue is piracy? Should government prioritise it more heavily?’), so it is not encouraging to see how it unravels on scrutiny. This then begs

²⁵An example is Figure 8 (TERA 2010, pg. 43) where file sharing appears to be greater and forecast to grow quicker than global consumer IP. The reason is simply that TERA switched the colours on the charts, which makes file sharing look bigger than it is.

²⁶Box-office sales did not fall by 12% between 2004-2008 as reported, but instead grew by 12% according to TERAs own numbers (2010: table 15, pg. 31).

²⁷See supplementary document FF to the Hargreaves Review (Hargreaves Review Team 2011c, figure 8.1) for the underlying data for this graph. <http://www.ipa.gov.uk/ipreview-doc-ff.xls>

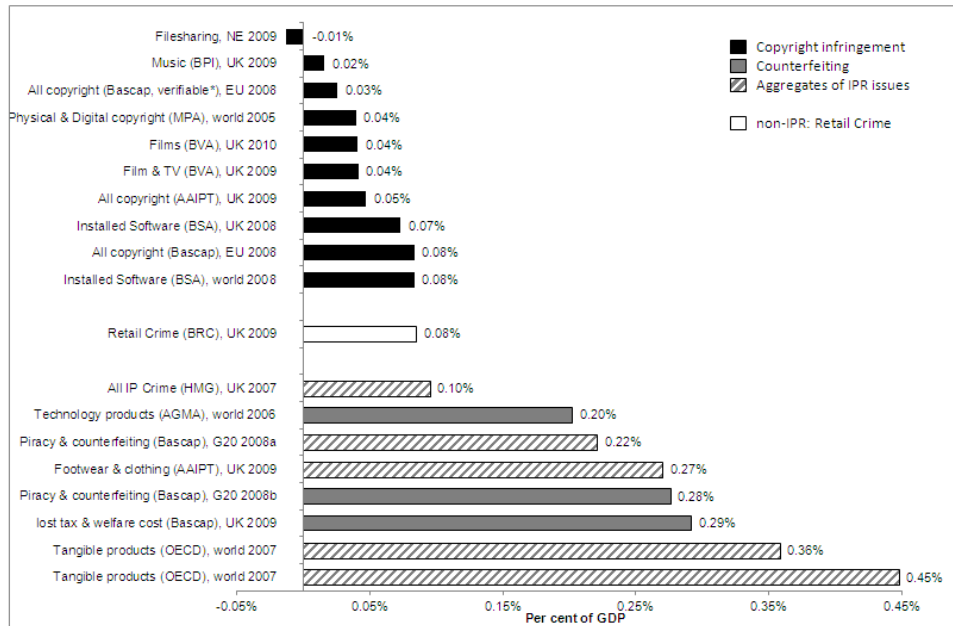


FIGURE 1. The cost of IPR infringement as a percentage of GDP

the question of what we actually know – or think we know – about copyright and its effect on the economy. Moreover, considering Figure 1, the TERA report provides the highest estimate of loss from copyright piracy in the current literature.

5. SOME CONCLUDING THOUGHTS

I think it is fair to assume that the amount of economic work on copyright issues will only grow. There will be more reports to government, more research (and we want to fund some of that research) and more public discussion. This is logical as copyright has gone from being a method for incentivising book production in the 18th century to becoming part of everyday life for 21st century citizens who are constantly generating copyrightable data either in blogs, phone conversations, data logs or creative activities. We can either strive to improve the empirical evidence we have to improve the opportunities offered by copyright protection, or muddle our

way through long papers which generate more heat than light. Make no mistake, the heat keeps me employed as a Government economist, but it prevents me from doing my job and accomplishing what we all want: Improving and maintaining the system we have. I think that is what everyone wants, but to get there we need to work more closely together, academics, industry and interest groups. If we can have a shared empirical evidence base we would be going far, if we can then successfully ensure that what you know is discussed with policy makers, we may be winning. That will need an effort from policy makers to lay down some rules about what they would accept as good evidence in reports to government – a recommendation of the Hargreaves *Review*. But it also needs the academic side of the debate to actively submit their research, preferably with an executive summary for politicians to read, to policy makers, so that we can include it in the first round of evidence gathering. Then once at the table we should be able to move the debate forward on the basis of good, peer-reviewed, evidence.

REFERENCES

- BSA-IDC (2009)**, *2008 Global Software Piracy Study*. Washington DC: Business Software Alliance
- CIPIL (2006)**, *Review of the Economic Evidence Relating to an Extension of the Term of Copyright in Sound Recordings. Report for the Gowers Review of IP*, London, HM Treasury. http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/media/B/4/gowers_cipilreport.pdf
- CIPIL (2007)**, “LECG Critique of the CIPIL Review: Response”, Cambridge: Centre for Intellectual Property and Information law. [http://www.cipil.law.cam.ac.uk/policy_documents/response_lecg\(1\).pdf](http://www.cipil.law.cam.ac.uk/policy_documents/response_lecg(1).pdf)
- Corrigan, R. and M. Rogers (2005)**, “The Economics of Copyright”, *World Economics*, 6(3); 153-74. <http://www.world-economics-journal.com/Contents/ArticleOverview.aspx?ID=219>
- DCMS (2008)**, *Creative Britain*, London: Department for Culture, Media and Sports.

DCMS (2010), *Creative Industries Economic Estimates*, London, Department for Culture, Media and Sports. Available at http://www.culture.gov.uk/reference_library/publications/6622.aspx

Farooqui S., P. Goodridge and J. Haskel (2011), “The Role of Intellectual Property Rights in the UK Market Sector”, Draft report for the Intellectual Property Office. http://www.coinvest.org.uk/pub/CERIBA/IPRsGrowth/IPO_ROLE_OF_IPRS_26April11.pdf

Gantchev, D. (2004), “The WIPO Guide on Surveying the Economic Contribution of the Copyright Industries”, *Review of Economic Research on Copyright Issues*, 1(1); 5-16.

GAO (2010), *Intellectual Property: Observations on Efforts to Quantify the Economic Effects of Counterfeit and Pirated Goods*, Report to Congressional Committees. <http://www.gao.gov/new.items/d10423.pdf>

Goodridge, P. and J. Haskel (2011), “Film, Television & Radio, Books, Music and Art: UK Investment in Artistic Originals”, IPO Economics Paper 2011/3, <http://www.ipso.gov.uk/ipresearch-copyinvest-full-201107.pdf>

Handke, C. (2010), *The Economics of Copyright and Digitisation: A Report on the Literature and the Need for Further Research*, London, Strategic Advisory Board on IP Policy. <http://www.ipso.gov.uk/ipresearch-economics-201005.pdf>

Hansen, A.M., V. Ponnii and R.G. Picard (2003), “Economics of Composition in a Small Nation: The Situation of Composers, Lyric Writers and Arrangers in Finland”, Working Paper, Business Research and Development Centre, Turku School of Economics and Business Administration.

Hargreaves, I. (2011), *Digital Opportunity: A Review of Intellectual Property and Growth*, London, Intellectual Property Office. <http://www.ipso.gov.uk/ipreview>

Hargreaves Review Team (2011a), “Supporting Document EE: Economic Impact of Recommendations”, Supporting document to the Hargreaves Review, <http://www.ipso.gov.uk/ipreview-doc-ee.pdf>

Hargreaves Review Team (2011b), “Supporting Document CC: Data on the prevalence and impact of Piracy and Counterfeiting”, Supporting document to the Hargreaves Review, <http://www.ipso.gov.uk/ipreview-doc-cc.pdf>

Hargreaves Review Team (2011c), “Supporting Document FF: Data tables and graphs produced for the review”, Supporting document to the Hargreaves Review, <http://www.ipo.gov.uk/ipreview-doc-ff.xls>

HM Government (2011), *The Government Response to Hargreaves Review of Intellectual Property and Growth*, Newport, Intellectual Property Office.

Hoppit, J. (2006), “The Context and Contours of British Economic Literature”, *The Historical Journal*, 49(1); 79-110.

Hui, K.L. and I. Png (2003), “Piracy and the Legitimate Demand for Recorded Music”, *Contributions to Economic Analysis & Policy*, 2(1); Article 11. <http://www.bepress.com/bejeap/contributions/vol2/iss1/art11>

Ipsos-Mori (2007), “Digital & Physical Piracy in GB”, Report for the British Video Association. http://www.ukfilmcouncil.org.uk/media/pdf/g/m/Ipsos_Piracy_UK_2007.pdf

Kretschmer, M. and F. Kawohl (2004), “The History and Philosophy of Copyright”, in Frith, S. and L. Marshal (eds), *Music and Copyright*, New York: Routledge; pp. 21-53.

Kretschmer, M. and P. Hardwick (2007), *Authors’ Earnings from Copyright and Non-copyright Sources: A Survey of 25,000 British and German Writers*, Bournemouth, CIPPM and ALCS.

Kretschmer, M. (2011), “Response to the Hargreaves Review on Behalf of the Intellectual Property Foresight Forum”, <http://www.cippm.org.uk/publications/Kretschmer-term-reversion.pdf>. EU Commission presentation here: <http://www.cippm.org.uk/pdfs/brussels-01-06-11-kretschmer.pdf>

Landes, W.M. and R.A. Posner (2003), *The Economic Structure of Intellectual Property Law*, Boston, Harvard University Press.

Liebowitz, S. (2011), “The Literature’s Empirical File Sharing Estimates are More Consistent Than Generally Understood”, Paper to the Congress of the Society for Economic Research on Copyright Issues, Bilbao, 7-8 July.

Matsumoto, S. (2002), “Performers in the Digital Era: Empirical Evidence from Japan”, in Towse, R. (ed), *Copyright in the Cultural Industries*, Cheltenham, Edward Elgar; pp. 196-209.

Png, I.P.L. and Q.H. Wang (2009), “Copyright Law and the Supply of Creative Work: Evidence from the Movies”, SERCI documents, <http://www.serci.org/2009/png.pdf>

PwC (2006), *The Impact of Copyright Extension for Sound Recordings in the UK: A Report for the Gowers Review of Intellectual Property*, prepared by PwC on behalf of the BPI. <http://www.ipa.gov.uk/report-termextension.pdf>

SABIP (2010), *Changing Attitudes and Behaviour in the ‘Non-Internet’ Digital World and Their Implications for Copyright*, London, Intellectual Property Office.

Soloveichik, R. (2010), “Artistic Originals as a Capital Asset”, working paper for the Bureau of Economic Affairs.

Soloveichik, R. and D. Wasshausen (2011), “Copyright Protected Assets in the National Accounts”, U.S. National Academies of Science, Committee on the Impact of Copyright Policy on Innovation in the Digital Era. <https://commons.georgetown.edu/blogs/copyrightnrc/files/NRC-Copyright-Soloveichik-draft-5-11.pdf>

St Clair, W. (2004), *The Reading Nation in the Romantic Period*, Cambridge, Cambridge University Press.

TERA (2010), *Building a digital Economy: The Importance of Saving Jobs in the EU’s Creative Industries*, Paris, TERA Consultancy. For BASCAP. <http://www.iccwbo.org/bascap/id35360/index.html>

Towse, R. (2001), *Creativity, Incentive and Reward: An Economic Analysis of Copyright and Culture in the Information Age*, Cheltenham, Edward Elgar.

Throsby, D. (2001), *Economics and Culture*, Cambridge, Cambridge University Press.

Watt, R. (2009a), “An Empirical Analysis of the Economics of Copyright: How Valid are the Results of Studies in Developed Countries for Developing Countries”, in *The Economics of Intellectual Property: Suggestions for Further Research in Developing Countries and Countries with Economies in Transition*. Geneva, WIPO; Chapter 3. http://www.wipo.int/export/sites/www/ip-development/en/economics/pdf/wo_1012_e.pdf

Watt, R. (2009b), “Editorial”, *Review of Economic Research on Copyright Issues*, 6(2); 1-4.

WIPO (2003), *Guide on Surveying the Economic Contribution of the Copyright Based Industries*, Geneva, World Intellectual Property Organisation
http://www.wipo.int/copyright/en/publications/pdf/copyright_pub_893.pdf

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